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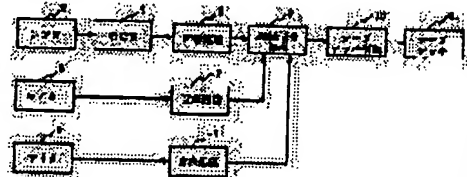
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(54) IMAGE PICKUP DEVICE AND EDIT DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To simply select a desired video image by converting an audio signal into text data and recording the data with the image pickup result to search simply the image pickup result.

SOLUTION: A recording signal processing circuit 9 adds an error correction code or the like to output data of an image processing circuit 4 and an audio processing circuit 5 and applies code processing to the resulting data by a coding system suitable for recording of a magnetic tape. Furthermore, the recording signal processing circuit 9 adds index data advanced sequentially in response to the operation of video recording start, time data for image pickup date and time and a time code or the like to the image pickup information outputted from an audio recognition circuit 7 and applies coding to the data by a specified coding system and provides an output of result. In the edit job, text data are displayed to grasp a content of each file or a desired file is easily retrieved.

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CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE INVENTION
TECHNICAL PROBLEM MEANS DESCRIPTION OF DRAWINGS DRAWINGS

[Translation done.]

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CLAIMS

[Claim(s)]

[Claim 1] Image pick-up equipment characterized by changing a sound signal into text data by the speech recognition circuit, and recording said text data with said image pick-up result in the image pick-up equipment which records the image pick-up result which picturizes a desired photographic subject and is obtained.

[Claim 2] Edit equipment which changes into text data the sound signal recorded on said record medium by speech recognition, makes a unit said image pick-up result recorded continuously, and is characterized by displaying said text data in the edit equipment into which the image pick-up result recorded on the regular record medium is edited.

[Claim 3] Said edit equipment is edit equipment according to claim 2 characterized by searching said image pick-up result on the basis of said text data.

[Claim 4] It is edit equipment which a sound signal is changed into text data by speech recognition, said record medium is recorded in the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and said edit equipment makes a unit said image pick-up result recorded continuously, and is characterized by displaying said text data.

[Claim 5] Said edit equipment is edit equipment according to claim 4 characterized by searching said image pick-up result on the basis of said text data.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] By applying to the edit equipment into which the image pick-up result recorded by the camera one apparatus video tape recorder and this camera one apparatus video tape recorder is edited, concerning image pick-up equipment and edit equipment, for example, changing a cameraman's message into text data by speech recognition, and recording with an image pick-up result, by using this text data effectively, as this invention can search a desired image pick-up result simply, it simplifies an editing task again at the time of edit.

[0002]

[Description of the Prior Art] Conventionally, after recording a desired image with a camera one apparatus video tape recorder in a coverage site, a location site, etc. at a broadcasting station etc., it is made as [use / for broadcast etc. / it / edit these images and] later.

[0003] Moreover, in the photography site, voice, such as a cameraman, is recorded with an image pick-up result, for example, and it is made as [save / this / explanation of the situation of each photography the contents etc.]. That is, if voice is recorded with an image pick-up result, it is not necessary to create a handwriting memorandum etc. and, and according to correspondence relation with an image pick-up result being clear, required information can certainly be saved and it can leave record. Furthermore, according to voice, such information is also simply recordable.

[0004]

[Problem(s) to be Solved by the Invention] By the way, in an editing task, it carries out rapid-traverse rewinding of the magnetic tape, checking the photoed image, or carries out rapid-traverse rewinding of the magnetic tape on the basis of a time code, and the image which this uses for edit is chosen. Furthermore this selected image is processed and it rerecords on a magnetic tape separately, and thereby, many edit about 100 magnetic tapes and create the program for about 90 minutes.

[0005] For this reason, in an editing task, there was a problem which takes much time amount to search after all the image recorded on the magnetic tape, and to choose a desired image. If this time amount can be shortened, that part editing task can be simplified.

[0006] It is possible to use explanation of the situation of the photography recorded with the image pick-up result, the contents, etc. as one approach of solving this problem. However, when such voice was heard and the contents of the image pick-up result had been grasped, there was a fault which it is quicker to check an image pick-up result, and cannot be used effective in simplification of an editing task conventionally in practice.

[0007] This invention was made in consideration of the above point, and tends to propose the image pick-up equipment and edit equipment which can search an image pick-up result simply and can choose a desired image simply.

[0008]

[Means for Solving the Problem] In order to solve this technical problem, it applies to the image pick-up equipment which records the image pick-up result which picturizes a desired photographic subject and is obtained in this invention, and a sound signal is changed into text data by the speech recognition circuit, and this text data is recorded with an image pick-up result.

[0009] Moreover, it applies to the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and the sound signal recorded on this record medium is changed into text data by speech recognition, the image pick-up result recorded continuously is made into a unit, and this text data is displayed.

[0010] Furthermore, in addition to this, an image pick-up result is searched on the basis of this text data.

[0011] Moreover, it replaces with this and applies to the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and when a sound signal is changed into text data by speech recognition and this record medium is recorded, previous edit equipment makes a unit the image pick-up result recorded continuously, and displays this text data.

[0012] Furthermore, this edit equipment searches an image pick-up result on the basis of this text data at this time.

[0013] If a sound signal is changed into text data by the speech recognition circuit and this text data is recorded with an image pick-up result with these means, explanation of a photography situation with a cameraman's voice etc. can be checked by the display of this text data at the time of edit.

[0014] Moreover, if the sound signal recorded on the record medium is changed into text data by speech recognition, the image pick-up result recorded continuously is made into a unit and this text data is displayed, explanation of a cameraman with the voice recorded in the photography site etc. can be checked by this display.

[0015] if an image pick-up result is furthermore searched on the basis of this text data, retrieval conditions can be set as versatility and a desired image pick-up result can be searched simply.

[0016] Moreover, when it replaces with this and it applies to the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and a sound signal is changed into text data by speech recognition and this record medium is recorded, If previous edit equipment makes a unit the image pick-up result recorded continuously and displays this text data for example, the text data formed in the photography site — or the explanation of a cameraman recorded with voice in the photography site the text data formed by carrying out speech recognition separately can be checked by the display of this text data.

[0017] Therefore, at this time, this edit equipment can search an image pick-up result on the basis of this text data, and can search a desired image pick-up result simply.

[0018]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained in full detail, referring to a drawing suitably.

[0019] (1) Gestalt drawing 2 of the 1st operation shows the camera one apparatus video tape recorder concerning the gestalt of operation of the 1st of this invention, in this camera one apparatus video tape recorder 1, changes a cameraman's sound signal into text data by speech recognition, and records it on a magnetic tape with a video signal and a sound signal.

[0020] That is, in this camera one apparatus video tape recorder 1, a lens 2 forms the image of a photographic subject in the image pick-up side of the CCD solid state image sensor (CCD) 3, and the CCD solid state image sensor 3 carries out photo electric conversion of the image formed in this image pick-up side, and it outputs an output signal. The image-processing circuit 4 generates red and a green and blue chrominance signal from this output signal, after amplifying the output signal of this CCD solid state image sensor 3. Furthermore, after the image-processing circuit 4 carries out regular signal processing to these chrominance signals, it is changed into a digital chrominance signal by the analog-to-digital-conversion circuit. Furthermore, after performing processing of white balance adjustment etc. to this digital chrominance signal, the data compression of the image-processing circuit 4 is carried out by technique similar to MPEG (Moving Picture Experts Group), and it is outputted.

[0021] After the speech processing circuit 5 amplifies the photography site obtained through a microphone 6, for example, an actor's etc. sound signal, on convention gain, it carries out analog-to-digital-conversion processing, and is changed and outputted to a digital sound signal. On the other hand, the speech recognition circuit 7 inputs a cameraman's sound signal through a microphone 8, and amplifies this sound signal on convention gain. Furthermore, the speech recognition circuit 7 changes this sound signal into text data by the technique of speech recognition, after carrying out analog-to-digital-conversion processing of this sound signal (this text data is called photography information below). Thereby, with the camera one apparatus video tape recorder 1, this photography information is recorded on a magnetic tape with an image pick-up result, and it is formed so that it can use for edit processing later.

[0022] That is, in the camera one apparatus video tape recorder 1, after the record digital disposal circuit 9 adds an error correcting code etc. to the output data of the image-processing circuit 4 and the speech processing circuit 5, it carries out coding processing with the coding method suitable for record of a magnetic tape, and outputs. Furthermore, the record digital disposal circuit 9 adds the index data

which carry out stepping to the photography information outputted from the speech recognition circuit 7 one by one following actuation of image transcription initiation, the time data of photography time, a time code, etc., and it encodes with a regular coding method and it outputs these data.

[0023] The tape deck control circuit 10 is controlled by the system control circuit which is not illustrated, controls actuation of a tape deck 11, and outputs the output data of the record digital disposal circuit 9 to a tape deck 11 one by one. A tape deck 11 carries out slanting record of these output data one by one at a magnetic tape, and thereby, with the camera one apparatus video tape recorder 1, it is formed so that a desired photographic subject may be picturized and an image pick-up result can be recorded.

[0024] If it leaves explanation of a cameraman to record with an image pick-up result in the form of text data in this way, this text data can be extracted and displayed if needed. Therefore, if a fixed regulation is made beforehand and explanation of a photography site is inputted by the cameraman according to this regulation, in an editing task, this text data can be displayed, and the contents of each file can be grasped, and a desired file can be searched simply. Moreover, by generating text data by speech recognition, this kind of data can be simply inputted also in a cameraman.

[0025] Thereby, with the gestalt of this operation, in a cameraman, the message which specifies a photographic subject as photography information, the purpose of photography, a photography part, the message of whether to have taken a photograph rightly, etc. are inputted, and an image pick-up result is edited efficiently, using this photography information effectively.

[0026] Drawing 3 is the block diagram showing the edit equipment into which the image pick-up result recorded by this camera one apparatus video tape recorder 1 is edited. This edit equipment 20 is formed possible [the so-called non-linear editing], as first shown in drawing 4, it plays the magnetic tape recorded by the camera one apparatus video tape recorder 1 with a video tape recorder (VTR) 21, and it dubs the image pick-up result recorded on each magnetic tape to a hard disk drive unit 22 with performance information.

[0027] After that post edit equipment 20 chooses the file for edit about the contents recorded on this hard disk drive unit 22, it sets up an Inn point out point etc. about the file for [this] edit, and forms an edit list. Furthermore, edit equipment 20 rerecords separately the image recorded on the hard disk drive unit 22 according to this edit list on a video tape recorder etc., and, thereby, edits a series of image pick-up results. In addition, after a cameraman starts an image transcription here, the image followed until it suspends this image transcription is called one file.

[0028] That is, if the file which will be specified by this playback command if it is controlled by the computer 23, actuation is switched and a reproductive command is inputted from a computer 23 is reproduced and outputted and the command of search mode is inputted further, a hard disk drive unit 22 will carry out sequential playback, and will output the photography information on each file recorded with the image pick-up result, a time code, etc. Furthermore, a hard disk drive unit 22 is controlled from a computer 23, and records data, such as photography information and a time code, as a file registration list about the file which the operator registered as a candidate for edit.

[0029] A computer 23 controls actuation of a hard disk drive unit 22 by performing regular procedure following actuation of a keyboard 24 and a mouse 25, and it reproduces and displays photography information etc. while it reproduces a video signal and a sound signal if needed about each file which this recorded on the hard disk drive unit 22.

[0030] In this control, a computer 23 displays a selectable menu on a monitor 26, and displays the pull down menu corresponding to each menu so that it may be a help to actuation of an operator. A computer 23 displays photography information etc. on a monitor 26 if needed, and enables it to choose a desired file simply on the basis of this photography information by this with these menus furthermore.

[0031] That is, drawing 5 shows the initial screen of the monitor 26 at the time of an editing task, and a computer 23 displays the window 29 of a rectangle configuration on the bottom of a menu bar 28. A computer 23 displays the menu of the menu of the file about the display of the file stored in the hard disk drive unit 22, the menu of the selection about selection of these files, and edit concerning edit of a file registration list etc. further on a menu bar 28 here.

[0032] Drawing 6 shows the pull down menu of a file menu, and a computer 23 will open this pull down menu, if the menu of a file is clicked with a mouse 25. This pull down menu displays the menu of a video-file list and video-file train registration, and is formed in the bottom of the display of the file which shows that it is the pull down menu of a file menu here.

[0033] Among these, a video-file list is a menu which displays photography information etc. per file about the file held at the hard disk drive unit 22 (it is called below the display of a video-file list of this

display). The menu of video-file train registration is a menu which registers into a file registration list the file which the operator chose.

[0034] Thereby, a computer 23 will register into the file registration list of hard disk drive units the file which the operator chose, if the menu of video-file train registration is chosen to displaying photography information about the file recorded on the hard disk drive unit 22 when the menu of this video-file list was chosen.

[0035] On the other hand, drawing 7 shows the pull down menu of a selection menu, and a computer 23 will open this pull down menu, if the menu of selection is clicked with a mouse 25. This pull down menu displays the display of the selection which shows that this menu is a pull down menu of a selection menu, and the menu of condition retrieval and file registration, and is formed. A computer 23 will display the check screen at the time of registering with a file registration list about the file which the operator chose, if the file which corresponds to the conditions which the operator set up on the basis of photography information if the menu of the condition retrieval with a pull down menu is chosen is searched and the menu of file registration is chosen.

[0036] Drawing 8 shows the pull down menu of an Edit menu, and a computer 23 will open this pull down menu, if the menu of edit is clicked with a mouse 25. This pull down menu is cut off with the display of the edit which shows that it is the pull down menu of an Edit menu, displays the menu of a copy and attachment and is formed. A computer 23 will perform cut & paste, copy and paste, and processing of deletion about the file which the operator chose in the video-file list and the file registration list, if sequential selection of the menu of these cutoff, a copy, and attachment is made.

[0037] That is, drawing 1 shows the display of the video-file list corresponding to the menu of a video-file list, and is displayed on the window 29 mentioned above about drawing 5 R> 5. In addition, in this drawing 1, the display of the menu bar 28 mentioned above about drawing 5 is omitted and explained. If the menu of this video-file list is chosen, a computer 23 will set a hard disk drive unit 22 as search mode, and will incorporate the photography information on each file, a time code, etc. one by one. Furthermore, according to the assignment of an operator set up beforehand, a computer 23 displays this incorporated data alternatively, and, thereby, displays this video-file list.

[0038] That is, a computer 23 chooses the data of the photography time recorded on the head (namely, it corresponds at the time of photography initiation) of each file, and index data from the photography information by which a sequential input is carried out, a time code, etc. Furthermore, a computer 23 displays the date and time of day which displayed and photoed index data in the column of a file name from the data of photography time continuously from this selected data. Furthermore, a computer 23 displays the photography information formed of speech recognition on the comment field of each file.

[0039] It turns out that the cameraman inputted the message of "Building A" as explanation of a photographic subject in the file 1 in this case. Moreover, it turns out that the message of "a person A interview", "a person B interview", and "a person C interview" was inputted in the files 3, 4, and 5 which continue the message of "Building B" in the continuing file 2, respectively. Furthermore, by files 6 and 7, it turns out that the situation of a meeting was photoed from the front and back, respectively, and it turns out that signs that Persons A and B entered a conference room, respectively were photoed by the continuing files 8 and 9.

[0040] Thereby with edit equipment 20, it is made as [simplify / a cameraman's comment recorded in the form of text data with the image pick-up result is displayed, it is formed so that the contents of each file can be grasped simply, and the file of the part request is chosen efficiently, and / an editing task].

[0041] Thus, in case a video-file list is displayed, a computer 23 will scroll the display of a video-file list to the sense at the tip of this triangle, if a scroll bar 30 is displayed on the right-hand of this window 29 and it clicks on the icon of the triangle configuration of this scroll bar 30. Thereby, with edit equipment 20, about all the files recorded on the hard disk drive unit 22 if needed, it is formed so that the contents can be checked simply.

[0042] If the pull down menu of selection is opened in this condition and the menu of condition selection is clicked, a computer 23 will switch the display of a window 29 to the input screen of retrieval conditions. Drawing 9 shows the input screen of this retrieval condition, and a computer 23 forms an input screen in a chart format here so that the comment of the photography day set up beforehand, photography time of day, and a cameraman can be set as a retrieval item. It is made as [search / by this, / the retrieval conditions for which it wishes are set up and / with edit equipment 20 / the corresponding file].

[0043] In addition, in this input screen, a photography day and time of day are not included in the

conditions of retrieval, but as 1st candidate for retrieval, they are explanation of announcer, and are a part for induction, and they are set up so that the file which expresses negative mind with a notation "/" further, and has not failed in photography may be chosen. Moreover, as 2nd candidate for retrieval, it is set up so that the file which the contents of photography are conclusions as 4th candidate for retrieval, and has not failed to the interview of as opposed to [again] Person A as 3rd candidate for retrieval in a photographic subject being a building further at photography may be chosen.

[0044] This retrieval will be stopped, if the file which is in agreement with the set-up conditions if in addition to this input screen a computer 23 displays the icon of retrieval and a termination on this input top right of the screen and it clicks on the icon of this retrieval is searched and it clicks on the icon of a termination. Thereby, the image pick-up result for which an operator asks in this edit equipment 20 can be searched simply and certainly, and it is formed so that the file for [that] part edit can be chosen simply.

[0045] Drawing 10 shows the display screen of a retrieval result with which the video-file list mentioned above about drawing 1 according to this retrieval condition was searched, and if above-mentioned conditions click on the icon of retrieval in a computer 23, it will display a retrieval result in a chart format in order of the candidate for retrieval which the operator set up. At this time, in the input screen of retrieval conditions, a computer 23 specifies the correspondence relation between retrieval conditions and each file by the scene number displayed on the leftmost column, and displays a retrieval result.

[0046] Corresponding to the conditions of the photographic subject which this specified in the 2nd candidate for retrieval being a building, it turns out that three files which come to make Buildings A and B into a photographic subject were searched. Thereby, with edit equipment 20, when the file of the comment corresponding to a part or retrieval conditions exists, it is made to include this file in a retrieval result, and even when searching uncertain storage in a letter, it is formed so that the leakage in retrieval can be avoided effectively.

[0047] A computer 23 displays the comment of a photography day, photography time of day, and a cameraman about the searched file in the screen of this retrieval result. Thereby, with edit equipment 20, it is formed so that a retrieval result may be further extracted to reference and it may be loaded with the comment of these photography day, photography time of day, and a cameraman. That is, in this display screen or the display screen of a video-file list, if a scene number or a file name is clicked, a computer 23 will switch the background color of this file, and will choose this file. Furthermore, if the menu of cutoff is chosen after the menu of edit is chosen from a menu bar 28 in this condition, a computer 23 will delete the information on this file from a retrieval result or a video-file list, and will record the information on this file on a regular buffer.

[0048] On the other hand, the information on this file is recorded on a regular buffer, without deleting this selected file, if it replaces with the menu of this cutoff and the menu of a copy is chosen. A computer 23 is in the condition which recorded the information on a file on the regular buffer by actuation of this cutoff or a copy, and if the menu of attachment is chosen after switching the background color of this selected file, if which file is chosen, furthermore, it will insert and display the information on a file which recorded on this buffer before this selected file.

[0049] Thereby, with edit equipment 20, cut & paste, copy and paste, and the activity of deletion are done, and a video-file list and a retrieval result are edited, and it is formed so that the file for edit can be rearranged narrowing down and if needed further much more. If it clicks on the icon of a termination to moving to the display of a check at the time of registering a video-file list and the edit result of a retrieval result into a file registration list if the icon of registration and a termination is displayed on the display of this retrieval result, and an upper right portion and the icon of this registration is furthermore chosen as them in a computer 23, it will return to the screen of a video-file list mentioned above about drawing 1.

[0050] That is, if it clicks on the icon of registration, a computer 23 will switch the display of a title bar 31, as shown in drawing 11. In addition, in this window 29, by not displaying the file about the building B chosen in drawing 10 shows that the operator chose the menu of edit and deleted the file about this building B.

[0051] A computer 23 displays the alphabetic character of the catalogued file which shows that the icon of registration was chosen on this title bar 31, and displays the menu of a coma display on the right end of this title bar 31 here. If an operator chooses the menu of a coma display in this condition, a computer 23 will switch to the mode of operation of a coma display.

[0052] In the mode of operation of this coma display, a computer 23 publishes control command to a

hard disk drive unit 22, and reproduces the image of each file which comes to be as a result of [this] retrieval. Furthermore, a computer 23 arranges the image of each file by time series one by one side by side in a longitudinal direction, as the playback result obtained from a hard disk drive unit 22 is incorporated intermittently and shown in drawing 12 R> 2. Thereby, with edit equipment 20, it is formed so that the contents of the file narrowed down by retrieval may be inspected visually and a required file can be checked in detail.

[0053] Furthermore, if it clicks on the icon of the triangle configuration of the scroll bar 32 which switched, and will have arranged the background color of a display of this file to the window 29 down side continuously if which file was clicked in this condition, a computer 23 will publish control command to a hard disk drive unit 22, and will reproduce the file chosen in the playback direction corresponding to the sense at the tip of this triangle. Furthermore, a computer 23 incorporates this playback result alternatively, and switches the display of a window 29 with the incorporated image. Thereby, with edit equipment 20, it is formed so that it can check if needed also about the image before and behind the image of each four files arranged in this coma display screen, and it is formed so that user-friendliness can be improved by this.

[0054] In this coma display mode, a computer 23 displays the menu of a coma display in which the mode of operation of a coma display is shown on a title bar 31, and displays the menu of a text display on it at a right end. If the menu of this text display is clicked, a computer 23 is replaced with a coma display and made as [return / to the text display of drawing 11]. It is made as [check / easily / by this / in the direction with sufficient convenience with the image in a coma display, and the photography information on a text display / a file]. Furthermore by the mode of operation of a coma display, the time code of each image is displayed beside the display of a file name corresponding to the image of four sheets of the file which the operator always chose. Thereby, with edit equipment 20, it is formed so that the candidate for edit can be checked also with a time code, and it is made as [improve / the part user-friendliness].

[0055] Thereby in this coma display, selection of the menu of file train registration makes the computer 23 as [extract / the image pick-up result for edit / leak and] in the previous video-file list and the display of a retrieval result by registering the displayed file train into a file registration list, changing retrieval conditions separately if needed, and repeating the same processing.

[0056] in the above configuration, carrying in a photography site etc. and switching a photographic subject, a photography site, etc. to versatility, in the camera one apparatus video tape recorder 1 (drawing 2), a desired photographic subject is recorded on a magnetic tape, and this records the image pick-up result by the multi-file on a magnetic tape. At this time, explanation of the photography site which the cameraman inputted with voice is changed into text data in the speech recognition circuit 7, photography information is generated in the camera one apparatus video tape recorder 1, and this photography information is recorded on a magnetic tape with a time code etc.

[0057] Thus, after being recorded on a hard disk drive unit 22 from a video tape recorder 21 with each photography information etc. at the time of edit initiation, in edit equipment 20 (drawing 3), the file for edit is alternatively recorded on other hard disk drive units and other magnetic tapes, and edit processing of the photography result recorded on the magnetic tape is carried out. At this time, with edit equipment 20, the photography information on each file can be displayed on a monitor 26 in a chart format by computer 23 (drawing 1), this display can be inspected visually in an operator by this, the information on a photography site can be grasped, and it can be made the help of file selection of an operator.

[0058] Moreover, this photography information is retrieved in edit equipment 20 on the conditions (drawing 9) for which an operator asks by operating a regular handler, the file applicable to retrieval conditions is indicated by selection (drawing 10), and storage of an operator is made into a key by this, and from photography information, a file can be narrowed down and it can carry out to the help of file selection of an operator.

[0059] Furthermore, the multi-file is collectively indicated by the coma if needed (drawing 12), and the image of order is expressed as edit equipment 20 about the file which the operator chose further. With edit equipment 20, if an operator chooses a file by these helps and the menu of file train registration is chosen, this file will be registered into a file registration list as a file for edit. Thereby, edit processing which continues for the selected file can be performed by processing the file of this file registration list further in edit equipment 20, and recording and processing the file of a file registration list into a hard disk drive unit etc. separately.

[0060] By having changed a cameraman's sound signal into text data by speech recognition, having

generated photography information, and having recorded this photography information on the magnetic tape with the image pick-up result, by having enabled it to choose the file for edit on the basis of photography information again, as compared with the former, the candidate for edit can be selected by time amount markedly simple on a target, and short, and, according to the above configuration, thereby, an editing task can be simplified.

[0061] (2) it is the gestalt of other operations — in the gestalt of above-mentioned operation, although the case where speech recognition generated photography information in a camera one apparatus video tape recorder was described, speech recognition of this invention may be carried out not only by this but by the edit equipment side, and it may generate photography information. That is, drawing 13 shows the dubbing equipment which replaces the video tape recorder 21 and hard disk drive unit 22 which were mentioned above about drawing 4 in the case of carrying out speech recognition by the edit equipment side, and generating photography information, and reproduces the sound signal of an image pick-up result and a cameraman with a tape deck 41.

[0062] The tape deck control circuit 42 controls actuation of this tape deck 41, and outputs the output signal of this tape deck 41 to the regenerative-signal processing circuit 43. About the digital video signal which comes to be as a result of an image pick-up among this output signal, this regenerative-signal processing circuit 43 processes coding required for record of a hard disk drive unit 44 etc., and outputs. On the other hand, about a cameraman's sound signal, when inputted by the analog signal, it changes and outputs to a digital signal. Moreover, the regenerative-signal processing circuit 43 outputs index data, time code data, etc. which are reproduced by coincidence to the speech recognition circuit 45.

[0063] The speech recognition circuit 45 changes into photography information the digital sound signal outputted from this regenerative-signal processing circuit 43 by speech recognition. The record digital disposal circuit 46 changes into a record signal the digital video signal inputted through the speech recognition circuit 45 by the modulation technique suitable for record of a hard disk drive unit 44, and drives a hard disk drive unit 44 with this record signal. This records the image pick-up result reproduced with the tape deck on a hard disk drive unit 44 with this dubbing equipment 40.

[0064] At this time, after the record digital disposal circuit 46 adds a time code, index data, etc. to the photography information outputted from the speech recognition circuit 45, it is changed into a record signal with a digital video signal, and photography information is recorded on a hard disk drive unit 44 as this corresponds to each file. Thus, even if it creates photography information by the edit equipment side, the part and camera one apparatus video tape recorder which could acquire the same effectiveness as the gestalt of the 1st operation of a ****, and have arranged the speech recognition circuit to the edit equipment side can be formed in a small light weight.

[0065] Moreover, in the gestalt of above-mentioned operation, although the case where explanation with a cameraman's voice was changed into text data was described, this invention can be applied, not only this but when persons in charge, such as voice, input explanation separately. Not only when changing explanation of the staff of this photography site into text data furthermore and forming photography information, but an actor's voice may be changed into text data, and photography information may be formed. In this case, this kind of editing task can be simplified further much more by forming a script in a text data format separately, and searching an image pick-up result by the comparison result between this script, and arranging.

[0066] Moreover, in the gestalt of above-mentioned operation, although the case where it dubbed and edited into a hard disk drive unit was once described, this invention can be widely applied, when dubbing from a video tape recorder to a hard disk drive unit according to this file registration list after reproducing not only this but a video tape recorder and creating a file registration list, and editing an image pick-up result by various edit devices.

[0067] Furthermore, although the case where the image pick-up result recorded on the magnetic tape in the gestalt of above-mentioned operation was edited using a hard disk drive unit was described, this invention records an image pick-up result on various record media, such as a magnetic disk, not only in this but in image pick-up equipment, and when processing this image pick-up result, it can apply it widely.

[0068]

[Effect of the Invention] As mentioned above, by changing a sound signal into text data by speech recognition, generating photography information, and recording this photography information on a record medium with an image pick-up result, by having enabled it to choose the file for edit on the basis of this photography information again, as compared with the former, the candidate for edit can be selected by time amount markedly simple on a target, and short, and, according to this invention, thereby, an editing

task can be simplified.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] By applying to the edit equipment into which the image pick-up result recorded by the camera one apparatus video tape recorder and this camera one apparatus video tape recorder is edited, concerning image pick-up equipment and edit equipment, for example, changing a cameraman's message into text data by speech recognition, and recording with an image pick-up result, by using this text data effectively, as this invention can search a desired image pick-up result simply, it simplifies an editing task again at the time of edit.

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PRIOR ART

[Description of the Prior Art] Conventionally, after recording a desired image with a camera one apparatus video tape recorder in a coverage site, a location site, etc. at a broadcasting station etc., it is made as [use / for broadcast etc. / it / edit these images and] later.

[0003] Moreover, in the photography site, voice, such as a cameraman, is recorded with an image pick-up result, for example, and it is made as [save / this / explanation of the situation of each photography the contents etc.]. That is, if voice is recorded with an image pick-up result, it is not necessary to create a handwriting memorandum etc. and, and according to correspondence relation with an image pick-up result being clear, required information can certainly be saved and it can leave record. Furthermore, according to voice, such information is also simply recordable.

[0004]

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EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, by changing a sound signal into text data by speech recognition, generating photography information, and recording this photography information on a record medium with an image pick-up result, by having enabled it to choose the file for edit on the basis of this photography information again, as compared with the former, the candidate for edit can be selected by time amount markedly simple on a target, and short, and, according to this invention, thereby, an editing task can be simplified.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, in an editing task, it carries out rapid-traverse rewinding of the magnetic tape, checking the photoed image, or carries out rapid-traverse rewinding of the magnetic tape on the basis of a time code, and the image which this uses for edit is chosen. Furthermore this selected image is processed and it rerecords on a magnetic tape separately, and thereby, many edit about 100 magnetic tapes and create the program for about 90 minutes.

[0005] For this reason, in an editing task, there was a problem which takes much time amount to search after all the image recorded on the magnetic tape, and to choose a desired image. If this time amount can be shortened, that part editing task can be simplified.

[0006] It is possible to use explanation of the situation of the photography recorded with the image pick-up result, the contents, etc. as one approach of solving this problem. However, when such voice was heard and the contents of the image pick-up result had been grasped, there was a fault which it is quicker to check an image pick-up result, and cannot be used effective in simplification of an editing task conventionally in practice.

[0007] This invention was made in consideration of the above point, and tends to propose the image pick-up equipment and edit equipment which can search an image pick-up result simply and can choose a desired image simply.

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MEANS

[Means for Solving the Problem] In order to solve this technical problem, it applies to the image pick-up equipment which records the image pick-up result which picturizes a desired photographic subject and is obtained in this invention, and a sound signal is changed into text data by the speech recognition circuit, and this text data is recorded with an image pick-up result.

[0009] Moreover, it applies to the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and the sound signal recorded on this record medium is changed into text data by speech recognition, the image pick-up result recorded continuously is made into a unit, and this text data is displayed.

[0010] Furthermore, in addition to this, an image pick-up result is searched on the basis of this text data.

[0011] Moreover, it replaces with this and applies to the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and when a sound signal is changed into text data by speech recognition and this record medium is recorded, previous edit equipment makes a unit the image pick-up result recorded continuously, and displays this text data.

[0012] Furthermore, this edit equipment searches an image pick-up result on the basis of this text data at this time.

[0013] If a sound signal is changed into text data by the speech recognition circuit and this text data is recorded with an image pick-up result with these means, explanation of a photography situation with a cameraman's voice etc. can be checked by the display of this text data at the time of edit.

[0014] Moreover, if the sound signal recorded on the record medium is changed into text data by speech recognition, the image pick-up result recorded continuously is made into a unit and this text data is displayed, explanation of a cameraman with the voice recorded in the photography site etc. can be checked by this display.

[0015] if an image pick-up result is furthermore searched on the basis of this text data, retrieval conditions can be set as versatility and a desired image pick-up result can be searched simply.

[0016] Moreover, when it replaces with this and it applies to the edit equipment into which the image pick-up result recorded on the regular record medium is edited, and a sound signal is changed into text data by speech recognition and this record medium is recorded, If previous edit equipment makes a unit the image pick-up result recorded continuously and displays this text data for example, the text data formed in the photography site — or the explanation of a cameraman recorded with voice in the photography site the text data formed by carrying out speech recognition separately can be checked by the display of this text data.

[0017] Therefore, at this time, this edit equipment can search an image pick-up result on the basis of this text data, and can search a desired image pick-up result simply.

[0018]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained in full detail, referring to a drawing suitably.

[0019] (1) Gestalt drawing 2 of the 1st operation shows the camera one apparatus video tape recorder concerning the gestalt of operation of the 1st of this invention, in this camera one apparatus video tape recorder 1, changes a cameraman's sound signal into text data by speech recognition, and records it on a magnetic tape with a video signal and a sound signal.

[0020] That is, in this camera one apparatus video tape recorder 1, a lens 2 forms the image of a photographic subject in the image pick-up side of the CCD solid state image sensor (CCD) 3, and the CCD solid state image sensor 3 carries out photo electric conversion of the image formed in this image

pick-up side, and it outputs an output signal. The image-processing circuit 4 generates red and a green and blue chrominance signal from this output signal, after amplifying the output signal of this CCD solid state image sensor 3. Furthermore, after the image-processing circuit 4 carries out regular signal processing to these chrominance signals, it is changed into a digital chrominance signal by the analog-to-digital-conversion circuit.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the approximate line Fig. showing the display of the video-file list by the edit equipment concerning the gestalt of operation of this invention.

[Drawing 2] It is the block diagram showing the camera one apparatus video tape recorder concerning the gestalt of operation of this invention.

[Drawing 3] It is the block diagram showing the edit equipment concerning the gestalt of operation of this invention.

[Drawing 4] It is the block diagram in which beforehand [of the editing task by the edit equipment of drawing 3] carrying out, and showing dubbing of an image pick-up result.

[Drawing 5] It is the approximate line Fig. showing the initial screen of the edit equipment of drawing 3 .

[Drawing 6] It is the approximate line Fig. showing the pull down menu of the file menu of drawing 5 .

[Drawing 7] It is the approximate line Fig. showing the pull down menu of the selection menu of drawing 5 .

[Drawing 8] It is the approximate line Fig. showing the pull down menu of the Edit menu of drawing 5 .

[Drawing 9] It is the approximate line Fig. showing the input screen of the retrieval conditions by the edit equipment of drawing 3 .

[Drawing 10] It is the approximate line Fig. showing the display of the retrieval result by the retrieval conditions of drawing 9 .

[Drawing 11] It is the approximate line Fig. showing the display after edit of the retrieval result of drawing 10 .

[Drawing 12] It is the approximate line Fig. showing the coma display of the edit result of drawing 11 .

[Drawing 13] It is the block diagram showing the dubbing equipment concerning the gestalt of other operations.

[Description of Notations]

1 Camera One Apparatus Video Tape Recorder

3 CCD Solid State Image Sensor

4 Image-Processing Circuit

6 Eight Microphone

7 45 Speech recognition circuit

11 41 Tape deck

20 Edit Equipment

21 Video Tape Recorder

22 44 Hard disk drive unit

23 Computer

[Translation done.]

File name	Date	Time	Comments
1	95. 7. 10	11. 02. 30	Building A
2	95. 7. 10	11. 10. 30	Building B
3	95. 7. 10	11. 30. 35	Person A interview
4	95. 7. 10	11. 41. 40	Person B interview
5	95. 7. 10	11. 09. 20	Person C interview
6	95. 7. 10	11. 11. 30	Situation of a meeting shot from the front
7	95. 7. 10	11. 14. 33	Situation of a meeting shot from the back
8	95. 7. 10	11. 20. 14	Person A entering a conference room
9	95. 7. 10	11. 27. 30	Person B entering a conference room
10	95. 7. 10	11. 40. 30	Person A leaving the conference room

FIG. 1

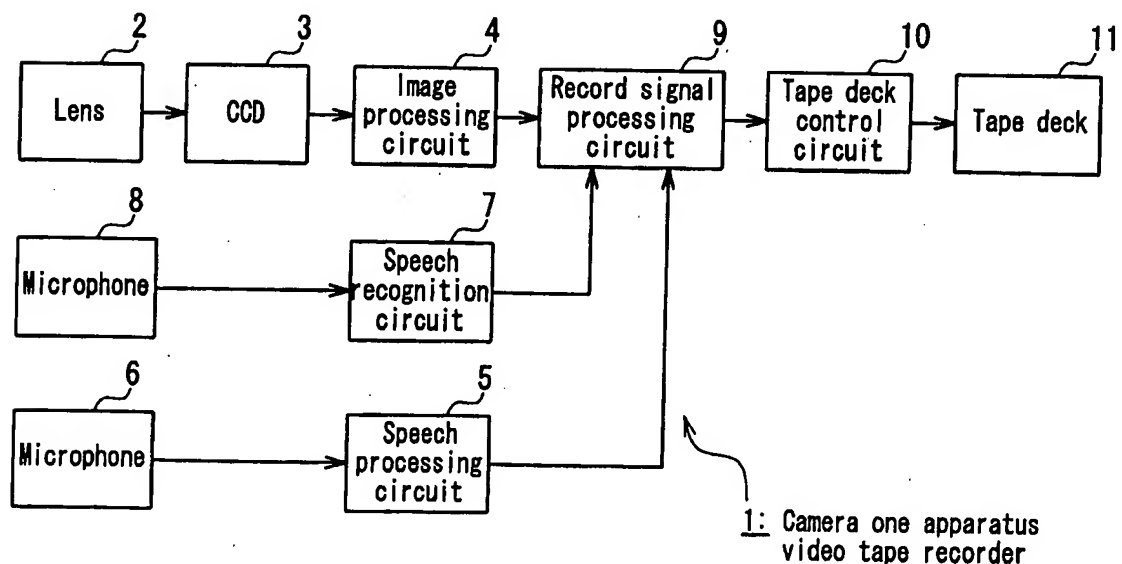


FIG. 2

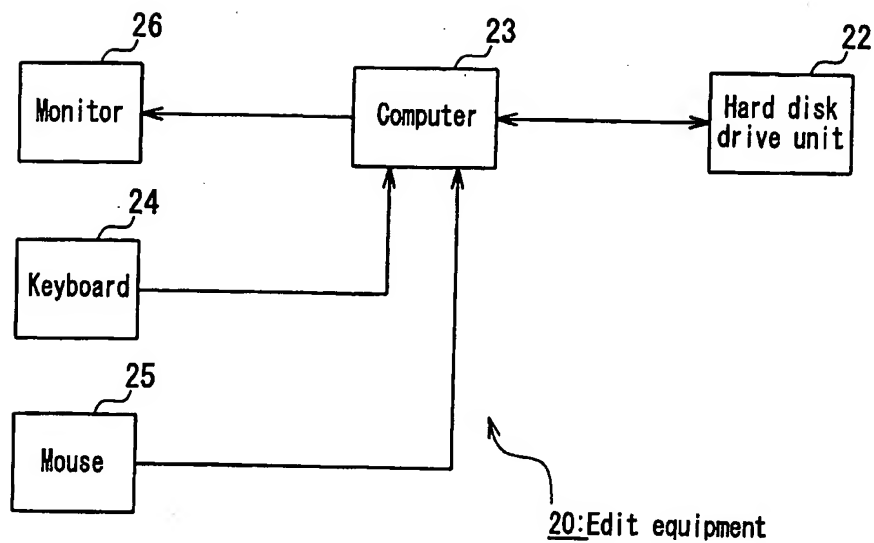


FIG. 3

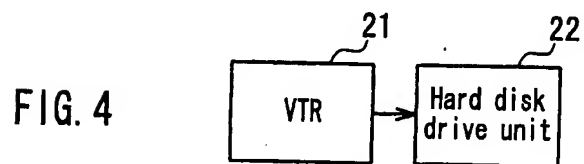


FIG. 4

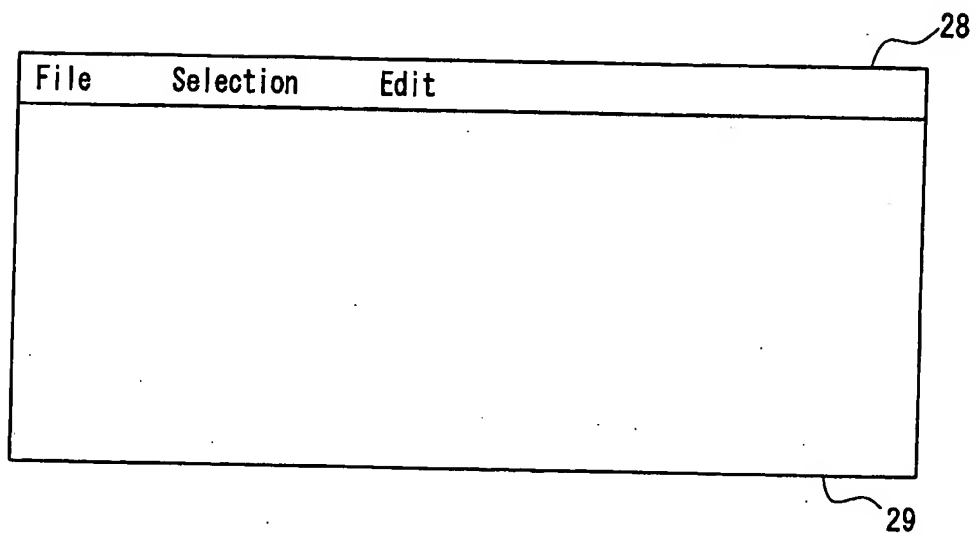


FIG. 5

FIG. 6

File
Video-file list
Video-file train registration

FIG. 7

Selection
Condition retrieval
File registration

FIG. 8

Edit
Cut
Copy
Paste

Termination			Retrieval	Termination
Retrieval	Date	Time	Retrieval conditions	
1			Announcer's explanation, introduction, /failure	
2			Building	
3			Person A interview	
4			Conclusions, /failure	

FIG. 9

Registration Termination

File name	Date	Time	Comments
1	95. 7. 10	16. 20. 14	Announcer's explanation, introduction
2	95. 7. 10	11. 02. 30	Building A
2	95. 7. 10	15. 10. 30	Building B
2	95. 7. 10	11. 10. 30	Person C entering the building B
3	95. 7. 10	11. 30. 35	Person A interview
4	95. 7. 10	16. 30. 20	Announcer's explanation, conclusions

29

FIG. 10

Catalogued file			Coma display
File name	Date	Time	Comments
1	95. 7. 10	16. 20. 14	Announcer's explanation, introduction
2	95. 7. 10	11. 02. 30	Building A
3	95. 7. 10	11. 30. 35	Person A interview
4	95. 7. 10	16. 30. 20	Announcer's explanation, conclusions

31

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FIG. 11

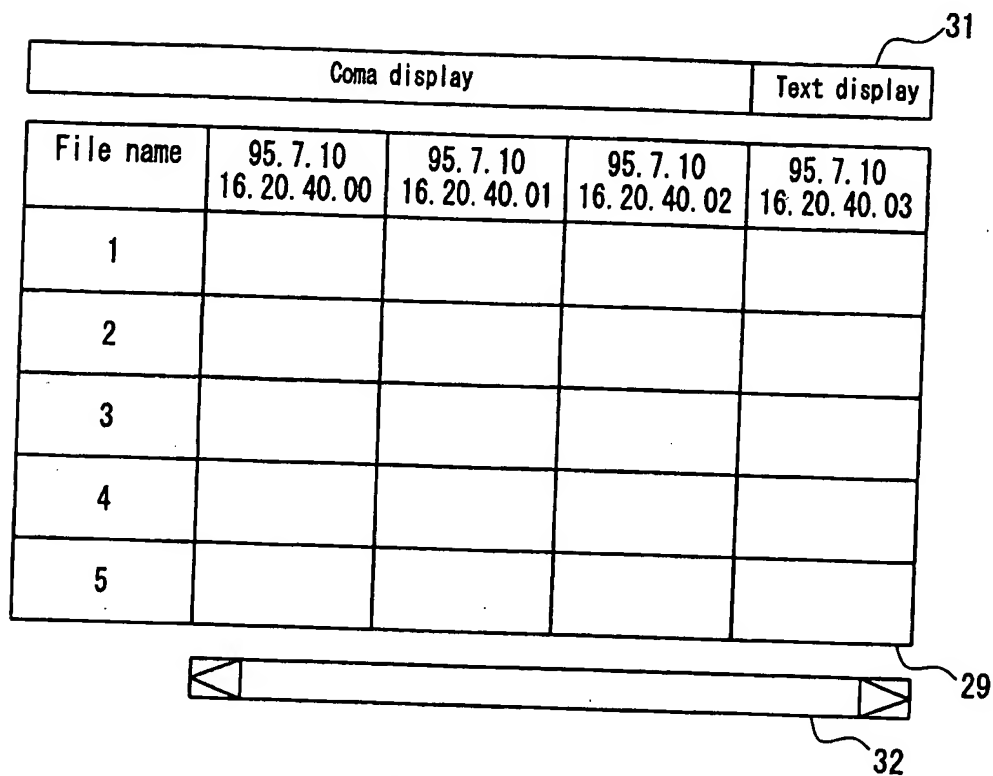


FIG. 12

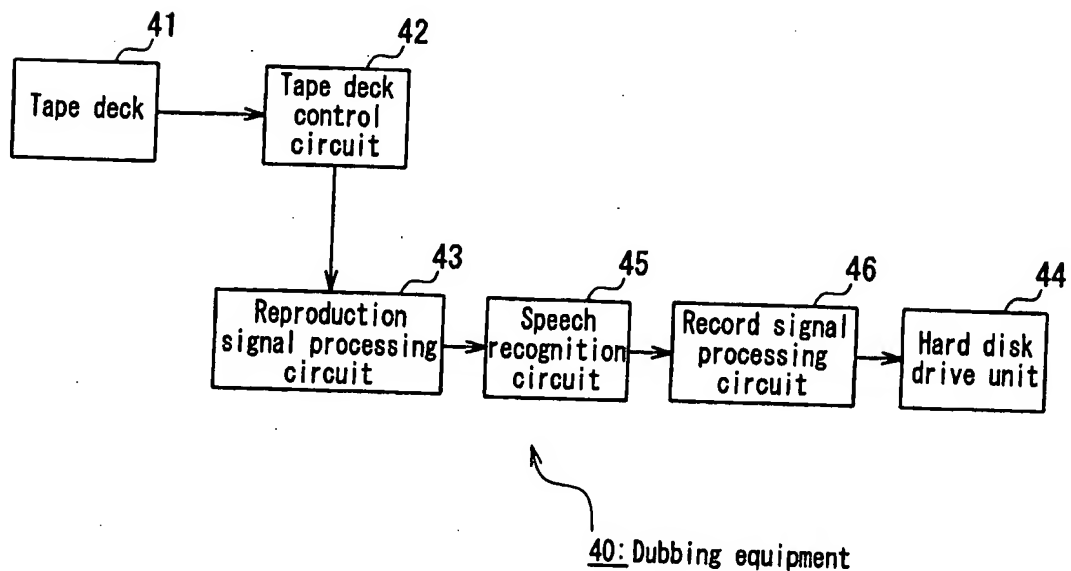


FIG. 13

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